IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant:	Ronald D. McCallister	**Communication**
Serial No.	10/718,505	
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Group Art Unit	2611	
Examiner	Jean B Corrielus	
Attorney Docket No.	125.136USR1	
Title: CONSTRAINED-ENVELOPE TRANSMITTER AND METHOD THEREFOR		

By a notice dated May 29, 2009, the Board returned the present application to the Examiner noting two items that needed to be addressed before the appeal could be docketed. These include:

1) Correcting the claim appendix to include markings specified in 37 C.F.R. 1.173(d).

2) Submission of a supplemental declaration.

With this Communication, Applicant submits a replacement claim appendix and the supplemental reissue declaration signed by the Assignee.

Please contact the undersigned if there are any other issues that need to be resolved before this appeal can be docketed.

Respectfully submitted,

/David N. Fogg/

Date: June 19, 2009

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CLAIMS APPENDIX

[1. A constrained-envelope digital communications transmitter circuit comprising:

a modulated-signal generator for generating a first modulated signal conveying to-be-communicated data, having a first bandwidth and having a first peak-to-average amplitude ratio;

a constrained-envelope generator for generating a constrained bandwidth error signal in response to said first modulated signal;

a combining circuit for combining said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to-average amplitude ratio; and

a substantially linear amplifier configured to amplify said second modulated signal.]

2. A constrained-envelope digital communications transmitter circuit [as claimed in claim 1 additionally] comprising:

a modulated-signal generator for generating a first modulated signal conveying to-be-communicated data, having a first bandwidth and having a first peak-to-average amplitude ratio;

a constrained-envelope generator for generating a constrained bandwidth error signal in response to said first modulated signal;

a combining circuit for combining said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to average amplitude ratio;

a substantially linear amplifier configured to amplify said second modulated signal; and

a delay element coupled between said modulated-signal generator and said combining circuit to delay said first modulated signal into synchronism with said constrained bandwidth error signal.

3. A constrained-envelope digital communications transmitter circuit as claimed in claim 2, wherein said constrained-envelope generator is configured so that said constrained bandwidth error signal exhibits a bandwidth substantially equal to or less than said first bandwidth.

4. A constrained-envelope digital communications transmitter circuit as claimed in claim 2 wherein:

peaking unit intervals occur when said first modulated signal exhibits magnitudes greater than a threshold;

said constrained bandwidth error signal includes error bursts for said peaking unit intervals, wherein each error burst spreads energy over a plurality of unit intervals and exhibits a peak in one unit interval; and

said delay element delays said first modulated signal so that error burst peaks substantially temporally coincide with said peaking unit intervals.

5. A constrained-envelope digital communications transmitter circuit as claimed in claim 4 wherein said error burst peaks exhibit amplitudes which are responsive to amounts by which magnitudes of said first modulated signal exceed said threshold.

6. A constrained-envelope digital communications transmitter circuit [as claimed in claim 1] comprising:

a modulated-signal generator for generating a first modulated signal conveying to-be-communicated data, having a first bandwidth and having a first peak-to-average amplitude ratio;

a constrained-envelope generator for generating a constrained bandwidth error signal in response to said first modulated signal;

a combining circuit for combining said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to-average amplitude ratio; and

a substantially linear amplifier configured to amplify said second modulated signal;

wherein said modulated-signal generator is a code division multiple access (CDMA) modulator and said first modulated signal conveys a plurality of code-channels of said to-be-communicated data.

7. A constrained-envelope digital communications transmitter circuit as claimed in claim 6 wherein said CDMA modular includes a Nyquist-type pulse spreading filter which provides said first modulated signal.

8. A constrained-envelope digital communications transmitter circuit as claimed in claim [1] 2 wherein said constrained-envelope generator comprises:

a pulse generator responsive to said first modulated signal; and

a filter having an input coupled to said pulse generator and being configured to generate said constrained bandwidth error signal.

9. A constrained-envelope digital communications transmitter circuit as claimed in claim 8 wherein said pulse generator is configured to generate a pulse when said first modulated signal exhibits a magnitude greater than a threshold.

10. A constrained-envelope digital communications transmitter circuit as claimed in claim 9 wherein said pulse generator is further configured so that said pulse exhibits an amplitude which is responsive to a value by which said first modulated signal exhibits said magnitude greater than said threshold.

11. A constrained-envelope digital communications transmitter circuit as claimed in claim [1] 2 wherein said substantially linear amplifier comprises:

a linearizer configured to pre-distort said second modulated signal into a pre-distorted signal; and a radio-frequency amplifying circuit configured to generate a radio-frequency broadcast signal from said pre-distorted signal.

[12. In a digital communications system, a method for transmitting a constrained-envelope communications signal comprising:

generating a first modulated signal conveying to-be-communicated data and having a first bandwidth and a first peak-to-average amplitude ratio;

generating a constrained bandwidth error signal in response to said first modulated signal;

combining said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to-average amplitude ratio; and

linearly amplifying said second modulated signal.]

13. A method as claimed in claim [12] 14 wherein said constrained bandwidth error signal exhibits a bandwidth substantially equal to or less than said first bandwidth.

14. In a digital communications system, a [A] method [as claimed in claim 13 additionally] for transmitting a constrained-envelope communications signal comprising:

generating a first modulated signal conveying to-be-communicated data and having a first bandwidth and a first peak-to-average amplitude ratio; generating a constrained bandwidth error signal in response to said first modulated signal;

combining said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second

peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to-average amplitude ratio;

linearly amplifying said second modulated signal; and

delaying said first modulated signal into synchronism with said constrained bandwidth error signal.

15. A method as claimed in claim 14 wherein:

peaking unit intervals occur when said first modulated signal exhibits magnitudes greater than a threshold;

said constrained bandwidth error signal includes error bursts for said peaking unit intervals, wherein each error burst spreads energy over a plurality of unit intervals and exhibits a peak in one unit interval; and

said first modulated signal is delayed so that error burst peaks substantially temporally coincide with said peaking unit intervals.

16. A method as claimed in claim 15 additionally comprising forming said constrained bandwidth error signal so that said error burst peaks exhibit amplitudes which are responsive to amounts by which magnitudes of said first modulated signal exceed said threshold.

17. In a digital communications system, a [A] method [as claimed in claim 12] for transmitting a constrained-envelope communications signal comprising:

generating a first modulated signal conveying to-be-communicated data and having a first bandwidth and a first peak-to-average amplitude ratio; generating a constrained bandwidth error signal in response to said first modulated signal;

combing said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to-average amplitude ratio; and

linearly amplifying said second modulated signal;

wherein said first-modulated-signal-generating activity configures said first modulated signal as a code division multiple access (CDMA) signal conveying a plurality of code-channels of said to-be-communicated data.

18. A constrained-envelope digital communications transmitter circuit comprising:

a modulated-signal generator for generating a first modulated signal conveying to-be-communicated data, having a first bandwidth and having a first peak-to-average amplitude ratio;

a constrained-envelope generator for generating a constrained bandwidth error signal in response to said first modulated signal, said constrained bandwidth error signal exhibiting a bandwidth substantially equal to or less than said first bandwidth, and said constrained bandwidth error signal exhibiting peak amplitudes which are responsive to amounts by which magnitudes of said first modulated signal exceed a threshold;

a delay element for delaying said first modulated signal into synchronism with said constrained bandwidth error signal;

a combing circuit for combining said constrained bandwidth error signal with said first modulated signal to produce a second modulated signal conveying said to-be-communicated data, said second modulated signal having substantially said first bandwidth and a second peak-to-average amplitude ratio, said second peak-to-average amplitude ratio being less than said first peak-to average amplitude ratio; and

a substantially linear amplifier configured to amplify said second modulated signal.

19. A constrained-envelope digital communications transmitter circuit as claimed in claim 18 wherein said modulated-signal generator is a code division multiple access (CDMA) modulator and said first modulated signal conveys a plurality of code-channels of said to-be-communicated data.

20. A constrained-envelope digital communications transmitter circuit as claimed in claim 18 wherein:

peaking unit intervals occur when said first modulated signal exhibits magnitudes greater than said threshold;

said constrained bandwidth error signal includes error bursts for said peaking unit intervals, wherein each error burst spreads energy over a plurality of unit intervals and exhibits a peak in one unit interval; and

said delay element delays said first modulated signal so that error burst peaks substantially temporally coincide with said peaking unit intervals.

21. The constrained-envelope digital communications transmitter circuit of claim 2, wherein the delay element is a fixed delay element.

22. The method of claim 14, wherein delaying said first modulated signal includes delaying said first modulated signal by a fixed delay.

23. The constrained-envelope digital communications transmitter circuit of claim 18, wherein the delay element is a fixed delay element.